

IN THE CLAIMS:

Please amend claims 1-14 as follows:

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1. (Currently Amended) A circuit for a device adapted to receive a
conductive solution including charged biological materials ~~control of an output current in a~~
~~multiple unit cell array~~, comprising:
- an array of unit cells arranged in rows and columns, the array of unit cells
disposed on a chip for receiving a conductive solution including charged biological
materials, wherein each unit cell comprises:
- a first column select transistor, the first column select transistor being
adapted for control by a column selector,
- a first row select transistor, the first row select transistor being adapted
for control by a row selector, the first select transistors being connected in series to each
other and between a node and a first supply,
- an output connected to the node,
- a second column select transistor, the second column select transistor
being adapted for control by a column selector,
- a second row select transistor, the second row select transistor being
adapted for control by a row selector, the second select transistors being connected in
series to each other and between the node and a second supply, and
- a return electrode.

2. (Currently Amended) The circuit of claim 1 ~~for control of an output current in an active biological control reaction system wherein the output is directly~~ connected to the node.

3. (Currently Amended) The circuit of claim 1 ~~for control of an output current in an active biological control reaction system wherein the row select transistors and the column select transistors are field effect transistors.~~

4. (Currently Amended) The circuit of claim 1 ~~for control of an output current in an active biological control reaction system wherein the first and second row select transistors are CMOS transistors.~~

5. (Currently Amended) The circuit of claim 1 ~~for control of an output current in an active biological control reaction system wherein the first and second column select transistors are CMOS transistors.~~

6. (Currently Amended) The circuit of claim 5 ~~for control of an output current in an active biological control reaction system wherein the channel length of the column select transistors is larger than the channel length of the row select transistors.~~

B2 7. (Currently Amended) The circuit of claim 1 ~~for control of an output current in an active biological control reaction system further including a first test transistor spanning the first supply and the node.~~

8. (Currently Amended) The circuit of claim 7 ~~for control of an output current in an active biological control reaction system~~ wherein the first test transistor is adapted for control by a test signal.

9. (Currently Amended) The circuit of claim 8 ~~for control of an output current in an active biological control reaction system~~ further including a second test transistor spanning the second supply and the node.

10. (Currently Amended) The circuit of claim 9 ~~for control of an output current in an active biological control reaction system~~ wherein the second test transistor is adapted for control by a test signal.

11. (Currently Amended) The circuit of claim 1 ~~for control of an output current in an active biological control reaction system~~ wherein the first supply is Vcc.

12. (Currently Amended) The circuit of claim 1 ~~for control of an output current in an active biological control reaction system~~ wherein the second supply is ground.

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13. (Currently Amended) The circuit of claim 1 ~~for control of an output current in an active biological control reaction system~~ wherein the first and second column select transistors are controlled under application of a gate voltage from a column shift register memory.

14. (Currently Amended) The circuit of claim 1 ~~for control of an output current in an active biological control reaction system wherein the first and second row select transistors~~ are controlled under application of a gate voltage from a row shift register memory.

15. (Cancelled)

16. (Cancelled)

17. (Currently Previously Amended) The circuit of claim 1 wherein the return electrode is another unit cell.

18. (Cancelled)

19. (Cancelled)

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20. (Cancelled)